Triton Alpestris was the form mainly used in this study, and one principle object which the author had in mind was to determine whether the development of the spinal cord took place in a manner similar to that described by His for man. The conclusions support those of His. The mitoses which give rise to the spongioblasts of these authors take place earlier than those which form the neuroblasts—the first form of nerve cells. The supporting substance of the cord is essentially epidermal, therefore, though, in the adult, cells of a different nature may be found imbedded in it. The ganglion cells are of several sizes, and it is the largest ones that develop earliest. Structures which have been described as "granules" and "free nuclei" are, in some cases at least, small ganglion cells. Triton also shows large nerve cells which are the homologues of the "posterior cells" (Freud) in Petromyzon. The plates that accompany the paper show several cross sections of the cord, and it is remarkable how closely the early stages resemble the developing cord in man.

Ueber den oberen Kern des Nervus oculomotorius. Dr. L. DARKSCHEWITSCH. Arch. f. Anat. u. Entwickelungsgsch. January, 1889. H. I. and II. Taf. I.

By the study of cross-sections from the region of the anterior corpora quadrigemina in the human fœtus, between the seventh and eighth months, Darkschewitsch makes out a group of cells to which he gives the name superior nucleus of the oculomotorius. The following is taken from his description: There are in this region two columns of cells on each side, their long axis parallel to the aquæduct. The more ventral and caudal group lies nearer the middle line, the more dorsal and cephalic one being laterad of it. The latter group has much smaller cells than the former. In their relations to the oculomotor nerve fibers and the posterior longitudinal bundle, both groups are alike. It is this dorsal and cephalic group, composed of the small cells, which is the "superior nucleus" of our author. For its relations, see the original paper. (Gudden has already described the several cell clusters which form the oculo-motor nucleus in the rabbit, and it may be that a study of this superior nucleus in the adult human brain will make it possible to homologize the subdivisions in man and the rabbit. In the meantime it must be remembered that this "superior nucleus" is classed with the oculo-motor centre solely on the ground of juxtaposition and its relation to the posterior longitudinal bundle and the oculo-motor nerve.—REV.)

Multiple Hirnnervenläsion nach Basisfractur. Ein Beitrag zur Frage des Verlaufs der Geschmacksnerven. L. BRUNS. Archiv f. Psychiatrie, u. Nervenkrankheiten, Bd. XX, H. 2, 1889.

The patient was a man who had been thrown from a wagon violently on his head; several cranial nerves (from II-VII inclusive) were injured by what was diagnosed as fracture of the basis of the skull. The careful examination showed that in general there existed on the right side, on which there was total paralysis of the facialis, a complete hemiageusia, both at the tip and back of tongue and soft palate, while on the left side, on which the trigeminus was completely paralyzed sensibility to taste was everywhere retained. There was no evidence that the glosso-pharyngeus was injured other than was furnished by the loss of taste. It was further surmised that the trigeminal lesion was intracranial, while that of the facial was in the Fallopian canal. If the hemiageusia had been confined to the anterior two-thirds of the tongue, the case would have fitted nicely with the theory of Carl, which makes the course of the taste fibers from the glosso-pharyngeus—where they arise—through the ganglion petrosum and by the tympanic nerve to the tympanic plexus, from here the main portion passes by the nervus

petrosus superficialis minor to the ganglion oticum and so to the lingualis, while the smaller part of the fibers passes from the tympanic plexus by a communicating branch to the geniculate ganglion of the facial, along this nerve to the chorda tympani and by the chorda to the lingualis. In Bruns' case the right temporal bone is probably fractured and the tympanic plexus can very well have been injured by this, thus well explaining part of the facts. The puzzling feature of the case is that the ageusia occurs on the back of the tongue as well, which is generally considered to be innervated directly by glosso-pharyngeal fibers and that there is no other evidence of glosso-pharyngeal injury. Bruns makes the suggestion that if the nervus intermedius is considered with Lussana and Vulpian to contain the nerves of taste for the back of the tongue, in addition to those for the other gustatory regions, as maintained by the above authors, this case may perhaps be explained, but he urges no hypothesis and presents these observations more as a contribution to the discussion than as decisive on any points.

Sur le nombre et le calibre du fibres nerveuses du nerf oculomoteur commun, chez le chat nouveau-nê et chez le chat adulte. M. H. SCHILLER. Comptes Rendus. 30 September, 1889.

Under the direction of Forel, Schiller has made some interesting observations to test whether the nervous elements increased in number after birth. The test was made by counting with care the number of fibers in the cross-sections of the oculo-motor nerves of some new-born cats and comparing this number with that found in the cross-sections of the same nerve in the adult animal.

The average number of fibers, taken from 3 cats, new-born, gives,	2942
For 2 cats, 4 weeks old, (same litter,)	2961
For 1 cat, 6 weeks old,	3032
For 1 cat, 1 year old,	3046
For 1 cat, a year and a half old,	3035

The slight increase in the number of fibers for the older animals is fairly accounted for by the greater ease of counting the elements in the adult, for the diameter of the fibers in the new born lies between 1.5—2 μ., while in the case of the oldest specimen—a year and a half old—it varies from 6—20 μ. The conclusion, as pointed out in a note by Forel, is to show plainly that cell multiplication in this nerve centre has stopped at the time of birth. The work is to be continued with the view to finding whether, as the present views demand, each nerve fiber is represented by a nerve cell.

Ueber die Histologie des Centralnervensystems. FROMMANN. Jahressitzung des Vereins der deutschen Irrenärzte. Jena, Juni, 1889. Abstracts of communications in Neurolog. Centralbl., No. 13, 1889, by Bruns.

First concerning the structure of the axis cylinder in nerve fibers. There are three views: Kupffer assumes continuous fibrillae running the entire length of the fiber; Joseph, a network with fibrillae passing between the meshes; Heitzmann, cross anastomoses which interrupt the direct tracts in the axis cylinder. From the study of invertebrates, Leydig supports the last view and explains the cross anastomoses as a supporting structure, which being interrupted cannot conduct. The conductive substance is the hyaloplasma, enclosed by this supporting substance. If this is true, how explain the conducting in the fine terminal branches of nerves where there is no hyaloplasma? Leydig describes in nerve cells, pale stripes and lines of hyaloplasma which conduct the nervous impulse from the cells. Frommann could not find these. He